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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/059,185      | 01/31/2002  | Noritaka Kawakatsu   | 219061US2SRD        | 5367             |

22850 7590 05/21/2003

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1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER

ROSSOSHEK, YELENA

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2825

DATE MAILED: 05/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/059,185

Applicant(s)

KAWAKATSU, NORITAKA

Examiner

Helen B Rossoshek

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,5,9,12,15-17,21,25,28,31 and 32 is/are rejected.
- 7) ☒ Claim(s) 2-4,6-8,10,11,13,14,18-20,22-24,26,27,29 and 30 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 5, 9, 12, 15-17, 21, 25, 28, 31 and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Kay (US Patent 6,021,266).

As to claims 1, 5, 9, 12, 17, 21, 25 and 28 Kay teaches converting a first code described in a software description language to a second code described in a hardware description language, including: converting the first code to the second code (col. 4, ll.33-37); detecting a plurality of processes from the second code, the processes corresponding to a plurality of parallel procedures in the first code, which assign values to a predetermined shared variable as shown on the fig. 1 within a compiler wherein in step 3 the source code having a plurality of parallel procedures (parallel constructs) (col. 5, ll.24-26, ll.61-62) is checked, and an abstract syntax tree and symbol table are created (step 4, step 5) which is an input for generator module (11) to convert the first code to the second code determining plurality processes (constructs) in the second code matching plurality of parallel procedures in the first code (col. 6, ll.31-35) and wherein the simplifier module 6 assigns variable for the first code (col. 5, ll.44-48) and optimizer 10 verifies this variables in the second code (col. 6, ll.14-16); and generating a value solving process for the detected processes corresponding to the parallel procedures,

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wherein the value solving process includes pairs of a data signal and a assignment timing signal from each of the detected processes as an input, and includes any one of data signals corresponding to a change of the assignment timing signal, as an input as shown on the Fig. 4a within declaration of a signal  $R_{request}$  as input and calculating  $R_{value}$  as output and declaring a signal  $R_{ready}$  for validation (col. 13, ll.15-27) and the Fig. 4B for multiple constructs (processes) within putting a combinational adder 35.

As to claims 15, 16, 31 and 32 Kay teaches the specifics as applied to claims 1, 5, 17 and 21 and was noted above and converting the value solving process relating to a procedure call between parallel programs to a procedure call solving process wherein the procedure call solving process includes pairs of an call timing signal and an argument data signal from each of the detected processes, as an input, and includes terminal signal and a return value signal, as an output to the processes, from the called procedure as shown on the Fig. 5A, 5B and 5C by calling the process F-39 and returning the value  $R_{ready}$  as output signal value; and returning the signal  $rx_{ready}$  for the particular channel (col. 13, ll.53-67, col. 14, ll.1-8).

### ***Allowable Subject Matter***

3. Claims 2-4, 6-8, 10, 11, 13, 14, 18-20, 22-24, 26, 27, 29 and 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record does not teach connecting the generated first and second value solving processes each other, wherein the first value solving process of the

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second code is generated at higher level and a second value solving process of the second code is generated at lower level than the first value solving process and second code includes a component hierarchical structure.

### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen B Rossoshek whose telephone number is 703-305-3827. The examiner can normally be reached on 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew S Smith can be reached on 703-308-1323. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

  
LEON H. CROOKER  
PATENT EXAMINER

HR      FIR  
May 15, 2003